

REMARKS

The present remarks are in response to the Office Action dated October 4, 2004. Claims 1-36 are now present in this case. Claims 37-70 were previously canceled in response to a restriction requirement.

The applicants have filed formal drawings in the application. No new matter has been introduced.

The applicants wish to express their appreciation to the Examiner for the indication that claims 15, 17-21 and 28-35 contain allowable subject matter. However, as discussed in greater detail below, it is believed that all claims are presently in condition for allowance.

Claims 1-14, 16, 22-27, and 36 stand rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a), as obvious over a document entitled "K-1 Vehicle TA-10 Flight Experiment Design and Requirements Document." The applicants wish to point out that this document was part of disclosure document number 521688, filed with the U.S. Patent Office on November 15, 2002. The document, referred to in the office action as the "K-1," was not publicly released and thus does not qualify as a publication under 35 U.S.C. § 102(b).

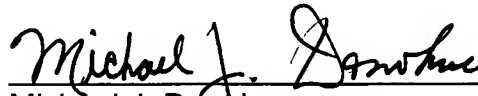
The draft document was inadvertently disclosed in an information disclosure statement, but is not prior art because it was not a publication. K-1 was an unreleased preliminary revision (rev. B) dated September 20, 2001. The applicants enclose selected pages of revision C of the same document, dated December 19, 2002. As noted on the change record (page i), revision B of the document was not released. Accordingly, revision B is not a publication and should not be used as a basis for rejection of claims. Accordingly, all claims are now in condition for allowance.

In view of the above remarks, reconsideration of the subject application and its allowance are kindly requested. If questions remain regarding the present application, the Examiner is invited to contact the undersigned at (206) 628-7640.

Respectfully submitted,

George E. Mueller et al.

Davis Wright Tremaine LLP

A handwritten signature in black ink, reading "Michael J. Donohue", written over a horizontal line.

Michael J. Donohue
Registration No. 35,859

MJD:gatc

Enclosures:

Selected pages of Revision C

2600 Century Square
1501 Fourth Avenue
Seattle, Washington 98101-1688
Phone: (206) 622-3150
Fax: (206) 628-7699

1562692_1.DOC

**Standard K-1 Passive Flight Experiment
Interface Definition and Requirements Document**

For the

K-1 Space Launch Vehicle

**NASA Contract Number
NAS8-01103**

**DRD 958 CM-009
DRD 958 CM-007 (partial submission)
DRD 958 VR-001 (partial submission)**

Change Record

REV	AUTHORIZATION	REASON FOR CHANGE	AFFECTED PAGE(S)
A		Not Released	
B		Not Released	
C	P22-0060	Initial Baseline Release	All

Table of Contents

1.	INTRODUCTION	1
1.1	SCOPE.....	1
1.2	DEFINITIONS.....	1
1.3	DOCUMENT CONVENTIONS	2
1.4	EXPERIMENT DESCRIPTION	2
1.5	IDRD/ICD CONTROL PROCESS	2
1.6	IDRD DEVIATIONS AND EXCEEDANCES	2
2.	REFERENCED DOCUMENTS.....	3
2.1	KISTLER DOCUMENTS	3
2.2	EXPERIMENTER DOCUMENTS	3
2.3	U.S. GOVERNMENT DOCUMENTS	3
2.4	OTHER PUBLICATIONS	3
2.5	ORDER OF PRECEDENCE.....	3
3.	INTERFACE SPECIFICATION	4
3.1	STRUCTURAL AND MECHANICAL INTERFACES	4
3.1.1	LV Coordinate System.....	4
3.1.2	Passive Experiment Mounting Footprints	4
3.1.3	Experiment Interface and Envelope.....	5
3.1.4	Structural Loads.....	6
3.1.5	Mass Properties.....	7
3.1.6	Material Compatibility.....	7
3.1.7	Material Cleanliness	7
3.1.8	Material Outgassing.....	7
3.1.9	External Moldline	7
3.1.10	Installation Details	7
3.1.11	Mechanical Interface Drawings	8
3.2	ELECTRICAL INTERFACES	15
3.2.1	Connectors and Pin Assignments	15
3.2.2	Data Recording Interfaces	16
3.2.3	Pyrotechnic Devices	17
3.2.4	Installation Details	17
3.2.5	Electrical Interface Drawing.....	17
3.3	ENVIRONMENTAL INTERFACES.....	18
3.3.1	Thermal.....	18
3.3.2	Aerodynamic Loads	18
3.3.3	Humidity	18
3.3.4	Contamination	18
3.4	FACILITY INTERFACES	19
3.4.1	Pre-Launch Site Visits	19
3.4.2	Pre-flight and Post-flight Experiment Access	19

3.4.3	Facility Space.....	19
3.4.3.1	Processing Space	19
3.4.3.2	Office Space	20
3.4.3.3	Storage Space	20
3.4.3.4	Janitorial Service	20
3.4.4	Utilities	20
3.4.5	Hazardous Processing Area	21
3.4.6	Communications	21
3.4.7	Experiment Ground Support Equipment	21
3.4.8	Security	21
3.4.9	Training	21
3.4.10	Accommodations	22
3.4.11	Transportation.....	22
3.5	OPERATIONS INTERFACE.....	22
3.5.1	Installation Procedure	22
3.5.2	Hazardous Operations.....	23
3.5.3	Test and Checkout Procedure	23
3.5.4	Procedure to Uninstall Experiment.....	23
3.6	SAFETY AND MISSION INSURANCE	23
3.6.1	Australian Government Requirements	23
3.6.2	Hazards	23
3.6.3	Debris.....	23
4.	INTERFACE VERIFICATION MATRIX	24
4.1	VERIFICATION MATRIX DEFINITIONS	24
4.1.1	Inspection (I).....	24
4.1.2	Demonstration (D).....	24
4.1.3	Analysis (A).....	24
4.1.4	Test (T)	24
4.2	VERIFICATION RESPONSIBILITIES	24
4.3	VERIFICATION REQUIREMENTS.....	24
5.	PACKAGING AND SHIPPING.....	25
5.1	SHIPPING PROCESS FLOW	25
5.2	SHIPPING CONTAINER LABELLING INSTRUCTIONS.....	26
5.3	PACKING INSTRUCTIONS FOR EXPERIMENT RETURN.....	26
5.4	PACKING LIST FOR EXPERIMENT RETURN	26
5.5	MATERIAL SAFETY DATA SHEETS.....	26
5.6	HAZARDOUS WASTE DISPOSAL.....	26
6.	OPTIONAL SERVICES.....	27
6.1	IN-FLIGHT TELEMETRY	27
6.2	EXCESS DATA MEMORY	27
6.3	ENGINEERING ANALYSES AND TESTING	27
6.4	SPECIAL FACILITIES AND UTILITIES	27

6.5	TECHNICAL SHOP SUPPORT	27
7.	ROLES AND RESPONSIBILITIES	27
8.	SCHEDULE	28
8.1	PROGRAM MILESTONES.....	29
8.1.1	Preliminary Manifest/Program Schedule.....	29
8.1.2	Final Manifest.....	29
8.1.3	Kick-Off Meeting and Requirements Review	29
8.1.4	Integrated Experiment Design Review (IEDR)	29
8.1.5	Interface Kit Delivery	29
8.1.6	DFI Simulator Delivery	29
8.1.7	Experiment Acceptance in the U.S.....	29
8.1.8	Experiment Delivery to Woomera.....	30
8.1.9	Launch Readiness Review	30
8.1.10	Experiment Recovery	30
8.2	DELIVERABLES.....	30
8.2.1	Flight Experiment Design and Requirements Document (FEDR)	31
8.2.1.1	Preliminary Experiment Questionnaire	31
8.2.1.2	Interface Definition and Requirements Document (IDRD)	31
8.2.1.3	Detailed Experiment Questionnaire	32
8.2.2	Carrier Plate CAD Models	32
8.2.3	ICD	32
8.2.4	Risk Management Plan and Reports – Kistler.....	32
8.2.5	Risk Management Plan and Reports – Experimenter	32
8.2.6	Hazard Analysis Report - Experimenter.....	33
8.2.7	System Safety/ Hazard Analysis Report - Kistler.....	33
8.2.8	Failure Modes and Effects Analysis - Experimenter	33
8.2.9	Integrated Failure Modes and Effects Analysis	33
8.2.10	Experiment CAD Model.....	33
8.2.11	Export License.....	33
8.2.12	Flight Test Plan.....	34
8.2.13	Verification Report(s).....	34
8.2.14	Pre-Flight Report	34
8.2.15	Post-Flight Report.....	34
9.	ACRONYMS.....	35

List of Figures

Figure 1: K-1 Vehicle Coordinate System	4
Figure 2: Passive Experiment Mounting Footprints on K-1 OV	5
Figure 3: Cross-Section of Passive Experiment Interface.....	6
Figure 4: Carrier Plate for Footprint #2 & #3 with Experiment Envelope Shown	8
Figure 5: Carrier Plate for Footprint #2 & #3	9
Figure 6: Dimensional Drawing of Carrier Plate for Footprint #2 & #3	10
Figure 7: Carrier Plate for Footprint #4 with Experiment Envelope Shown	11
Figure 8: Carrier Plate for Footprint #4	11
Figure 9: Dimensional Drawing of Carrier Plate for Footprint #4.....	12
Figure 10: Carrier Plate for Footprint #6 with Experiment Envelope Shown	13
Figure 11: Carrier Plate for Footprint #6	13
Figure 12: Dimensional Drawing of Carrier Plate for Footprint #6.....	14
Figure 13: Electrical Interface Connector and Pin Locations	17
Figure 14: Typical Add-on Technology Experiment Integration Schedule	28

List of Tables

Table 1: Passive Experiment Mounting Footprints on K-1 OV	5
Table 2: Passive Experiment Footprint Dimensions.....	6
Table 3: Passive Experiment Maximum Mass	7
Table 4: Experiment Interface Connector Pin Assignments.....	15
Table 5: Analog Input Conversion Characteristics	16
Table 6: Heating Environment in K-1 OV External Experiment Footprints	18
Table 7: K-1 Passive Flight Experiment Verification Requirements	25
Table 8: Data Deliverable Responsible Parties and Typical Delivery Schedule	31